

AMPIRAN : 1

Perhitungan Nilai Keluaran dari tahun 1989 s/d 1993.

$Q_n.P_n$

$$\text{Keluaran} = \frac{\quad}{P_n / P_0} = Q_n.P_0$$

P_n / P_0

- Tahun 1989 = 250.500 x 273 = 68.386.500
 1990 = 278.320 x 273 = 75.991.360
 1991 = 365.725 x 273 = 99.942.925
 1992 = 501.802 x 273 = 136.991.946
 1993 = 573.868 x 273 = 156.605.964

Perhitungan Nilai Masukan dari tahun 1989 s/d 1993.

$Q_n.P_n$

$$\text{Masukan} = \frac{\quad}{P_n / P_0} = Q_n.P_0$$

P_n / P_0

- Tahun 1989 = (1)(709.000)+(3)(581.250)+(4)(317.273)+
 (2)(317.250)+(4)(279.130)+(2)(242.143)+
 (2)(282.000) = 6.521.143 ✓
- 1990 = (1)(709.000)+(4)(581.250)+(4)(317.273)+
 (2)(317.250)+(4)(279.130)+(2)(242.143)+
 (2)(282.000) = 7.102.398
- 1991 = (2)(709.000)+(5)(581.250)+(3)(317.273)+
 (4)(317.250)+(5)(279.130)+(2)(242.143)+
 (2)(282.000) = 8.157.379
- 1992 = (3)(709.000)+(5)(581.250)+(6)(317.273)+
 (5)(317.250)+(5)(279.130)+(4)(242.143)+
 (3)(282.000) = 12.058.656
- 1993 = (4)(709.000)+(6)(581.250)+(8)(317.273)+
 (5)(317.250)+(5)(279.130)+(4)(242.143)+
 (2)(282.000) = 12.930.506

LAMPIRAN : 2

Perhitungan Indeks Produktivitas Tenaga Kerja dari Tahun 1989 s/d 1993 :

Indeks Produktivitas Tenaga Kerja :

$$\frac{\frac{\text{Keluaran Qn.Po}}{\text{Masukan Qn.Po}}}{\frac{\text{Keluaran Qo.Po}}{\text{Masukan Qo.Po}}} \times 100$$

Tahun 1989 = $\frac{68.386.500}{6.521.148} = 10,49$, karena tahun 1989 merupakan tahun dasar, maka Indeks Produktivitas tenaga kerja = 100

Tahun 1990 = $\frac{75.981.389/7.102.398}{68.386.500/6.521.148} \times 100 = \frac{10,648}{10,49} \times 100 = 101,92$

Tahun 1991 = $\frac{99.242.925/9.157.370}{68.386.500/6.521.148} \times 100 = \frac{10,803}{10,49} \times 100 = 103,94$

Tahun 1992 = $\frac{136.991.946/12.050.656}{68.386.500/6.521.148} \times 100 = \frac{11,368}{10,49} \times 100 = 108,37$

Tahun 1993 = $\frac{156.865.964/12.930.506}{68.386.500/6.521.148} \times 100 = \frac{12,116}{10,49} \times 100 = 115,50$

LAMPIRAN : 3

Perhitungan Labour Turn Over dari tahun 1989 s/d 1993
sebagai berikut :

Jumlah Karyawan yang keluar

Rumusnya : Labour Turn Over = $\frac{\text{Jumlah Karyawan yang keluar}}{\frac{\text{Karyawan Awal Tahun} + \text{Karyawan Akhir Tahun}}{2}} \times 100\%$

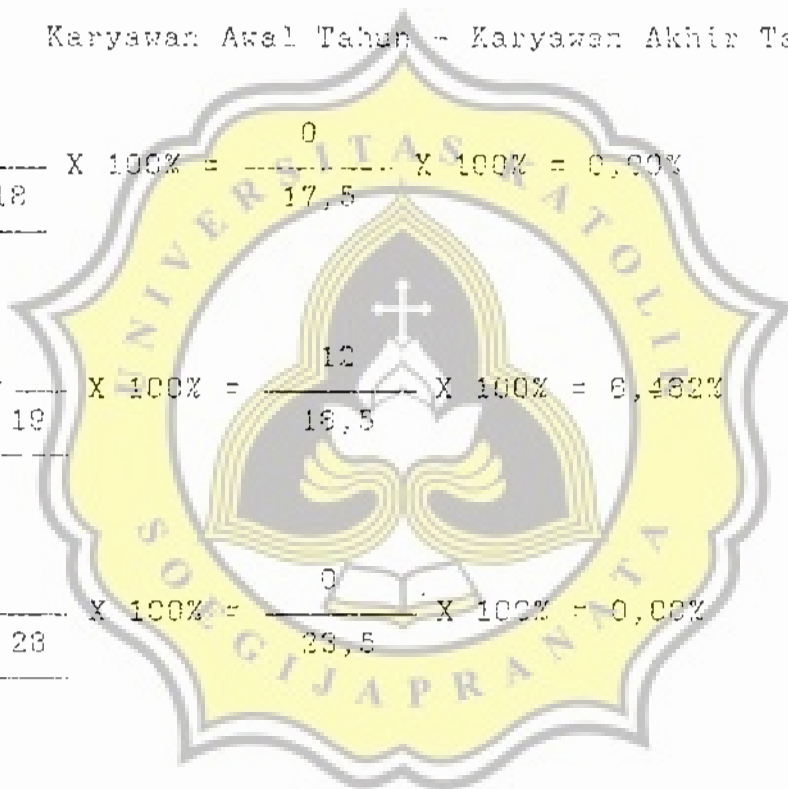
$$\text{Tahun 1989} = \frac{0}{\frac{17 + 18}{2}} \times 100\% = \frac{0}{17,5} \times 100\% = 0,00\%$$

$$\text{Tahun 1990} = \frac{12}{\frac{18 + 19}{2}} \times 100\% = \frac{12}{18,5} \times 100\% = 6,482\%$$

$$\text{Tahun 1991} = \frac{0}{\frac{19 + 28}{2}} \times 100\% = \frac{0}{23,5} \times 100\% = 0,00\%$$

$$\text{Tahun 1992} = \frac{3}{\frac{28 + 33}{2}} \times 100\% = \frac{3}{30,5} \times 100\% = 9,834\%$$

$$\text{Tahun 1993} = \frac{3}{\frac{33 + 34}{2}} \times 100\% = \frac{4}{33,5} \times 100\% = 11,940\%$$



LAMPIRAN : 4

TABEL
PERSIAPAN PERHITUNGAN KOEFISIEN REGRESI BERGANDA
PERUSAHAAN UBIN "MEGA MAS" KUDUS
TAHUN 1989 S/D 1993

n	Y	X ₁	X ₂	X ₁ Y	X ₁ X ₂	X ₂ Y	X ₁ ²	X ₂ ²	Y ²
9	100,00	0,93	0,000	93	0	0	0,8649	0	10.000
0	101,98	0,73	6,482	71,145	4,708	660,830	0,5329	41,9804	10.399,92
1	103,94	1,14	0,000	118,492	0	0	12,996	0	10.803,52
2	108,37	1,15	9,834	124,625	11,224	1065,277	1,3225	96,7482	11.744,66
3	115,50	1,31	11,942	151,31	15,720	1379,07	1,7161	142,5707	13.340,25
all	529,79	5,26	28,21	561,867	31,652	3101,46	5,7360	280,8601	56287,759



$$7. -22,6396 = -1,0124 b_1 + 9,8754 b_2$$

$$-22,6396 = -1,0124 b_1 + (9,8754 \cdot -0,665988761)$$

$$-22,6396 = -1,0124 b_1 + (-6,57690541)$$

$$-22,6396 - 6,57690541 = -1,0124 b_1$$

$$b_1 = \frac{(-22,6396 - 6,57690541)}{-1,0124}$$

$$b_1 = \frac{(-)16,06269459}{-1,0124}$$

$$b_1 = 15,8659672$$

$$529,79 = 5a + (5,26 \cdot b_1) - (28,21 \cdot b_2)$$

$$529,79 = 5a + (5,26 \cdot 15,8659672) - (28,21 \cdot (-0,665988761))$$

$$529,79 = 5a + 83,45493234 - (-18,78754294)$$

$$529,79 = 5a + 102,2424752$$

$$529,79 - 102,2424752 = 5a$$

$$427,5475248 = 5a$$

$$a = \frac{427,5475248}{5}$$

$$a = 85,50950496$$

Dari hasil persamaan di atas, maka didapat persamaan regresi berganda

$$= a + b_1X_1 - b_2X_2, \text{ sebagai berikut :}$$

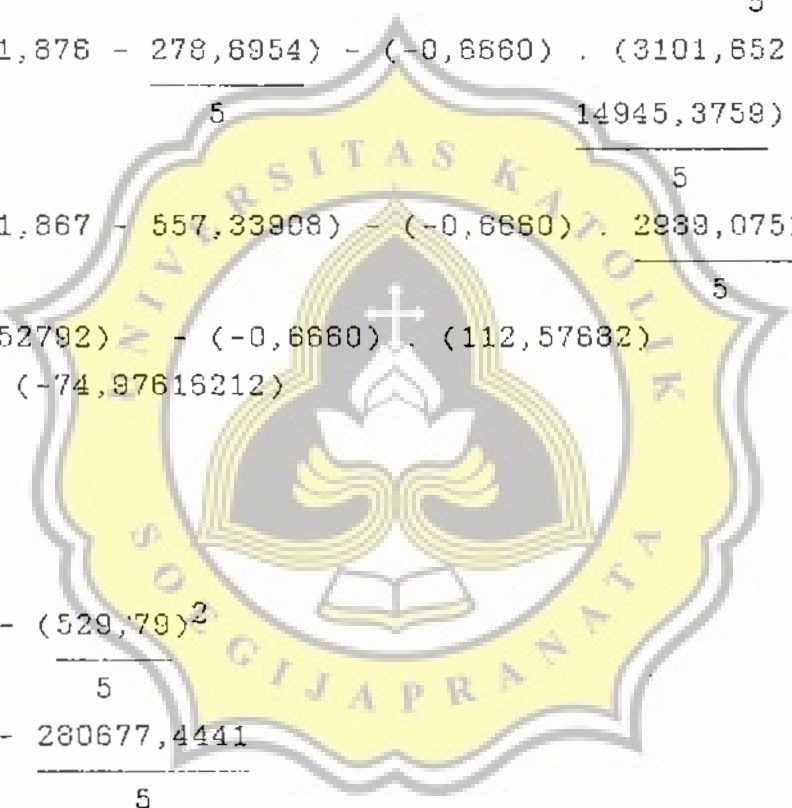
$$= 85,5095 + 15,8659 X_1 - 0,6660 X_2.$$

MPIRAN : 6

Ujian terhadap regresi berganda (perhitungan test).

$$\begin{aligned}
 SS_{reg} &= b_1 \left(\frac{\sum X_1Y}{n} - \frac{\sum X_1 \sum Y}{n^2} \right) - b_2 \left(\frac{\sum X_2Y}{n} - \frac{\sum X_2 \sum Y}{n^2} \right) \\
 &= 15,8659 \cdot \left(\frac{561,867}{5} - \frac{5,26 \cdot 529,79}{5} \right) - (-0,6660) \cdot \left(\frac{3101,652}{5} - \frac{28,21 \cdot 529,79}{5} \right) \\
 &= 15,8659 \cdot (561,878 - 278,6954) - (-0,6660) \cdot (3101,652 - 14945,3759) \\
 &= 15,8659 \cdot (561,867 - 557,33908) - (-0,6660) \cdot 2939,07518 \\
 &= 15,8659 \cdot (4,52792) - (-0,6660) \cdot (112,57832) \\
 &= 71,83952592 - (-74,97616212) \\
 &= 146,815688 \\
 &===== \\
 SS_{total} &= \frac{\sum Y^2}{n} - \left(\frac{\sum Y}{n} \right)^2 \\
 &= \frac{56287,7509}{5} - \left(\frac{529,79}{5} \right)^2 \\
 &= 56287,7509 - 280677,4441 \\
 &===== \\
 &= 56287,7509 - 56135,48882 \\
 &= 152,26208 \\
 &===== \\
 SS_{res} &= SS_{total} - SS_{reg} \\
 &= 152,26208 - 146,815688 \\
 &= 5,446392 \\
 &=====
 \end{aligned}$$

Di hasil tersebut di atas maka dapat dicari F test sebagai berikut:



LAMPIRAN : 7

Perhitungan koefisien korelasi parsial.

$$\begin{aligned} r_{12} &= \frac{n \cdot (\sum X_1 Y) - (\sum X_1) \cdot (\sum Y)}{\sqrt{[n \cdot (\sum Y^2) - (\sum Y)^2] \cdot [n \cdot (\sum X_1^2) - (\sum X_1)^2]}} \\ &= \frac{(5 \cdot 501867) - (5 \cdot 26 \cdot 529,79)}{\sqrt{5(56287,7509) - (529,79)^2 \cdot 5 \cdot (5,736) - (5,26)^2}} \\ &= \frac{809,335 - 2786,6954}{\sqrt{(281,438,7545 - 280,677,4441) \cdot (28,68 - 27,6676)}} \\ &= \frac{22,6396}{\sqrt{761,3104} \cdot 1,0124} \\ &= \frac{22,6396}{\sqrt{770,7506489}} \\ &= \frac{22,6396}{27,76239631} \\ &= 0,815477156 \\ &= \frac{n \cdot (\sum X_2 Y) - (\sum X_2) \cdot (\sum Y)}{\sqrt{[n \cdot (\sum Y^2) - (\sum Y)^2] \cdot [n \cdot (\sum X_2^2) - (\sum X_2)^2]}} \\ &= \frac{(5 \cdot 3101,462) - (28,21) \cdot (529,79)}{\sqrt{5(56287,7509) - (529,79)^2 \cdot 5 \cdot (280,81) - (2821)^2}} \\ &= \frac{15567,31 - 14945,3759}{\sqrt{281438,7545 - 280677,4441 \cdot (1404,05 - 795,8041)}} \\ &= \frac{581,9341}{\sqrt{761,3104} \cdot 608,2459} \end{aligned}$$

$$= \frac{561,9341}{\sqrt{463063,9294}}$$

$$= \frac{561,9341}{680,488082}$$

$$= 0,825781047$$

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$$r_{1,2} = \frac{n \cdot (\sum X_1 X_2) - (\sum X_1) \cdot (\sum X_2)}{\sqrt{[n \cdot (\sum X_1^2) - (\sum X_1)^2] \cdot [n \cdot (\sum X_2^2) - (\sum X_2)^2]}}$$

$$= \frac{5 \cdot (31,652) - (5,26) \cdot (28,21)}{\sqrt{5 \cdot 5,736 - (5,26)^2 \cdot [5 \cdot (280,81) - (28,21)^2]}}$$

$$= \frac{158,26 - 148,3846}{\sqrt{(128,68 - 27,6676) \cdot (1404,05 - 795,8041)}}$$

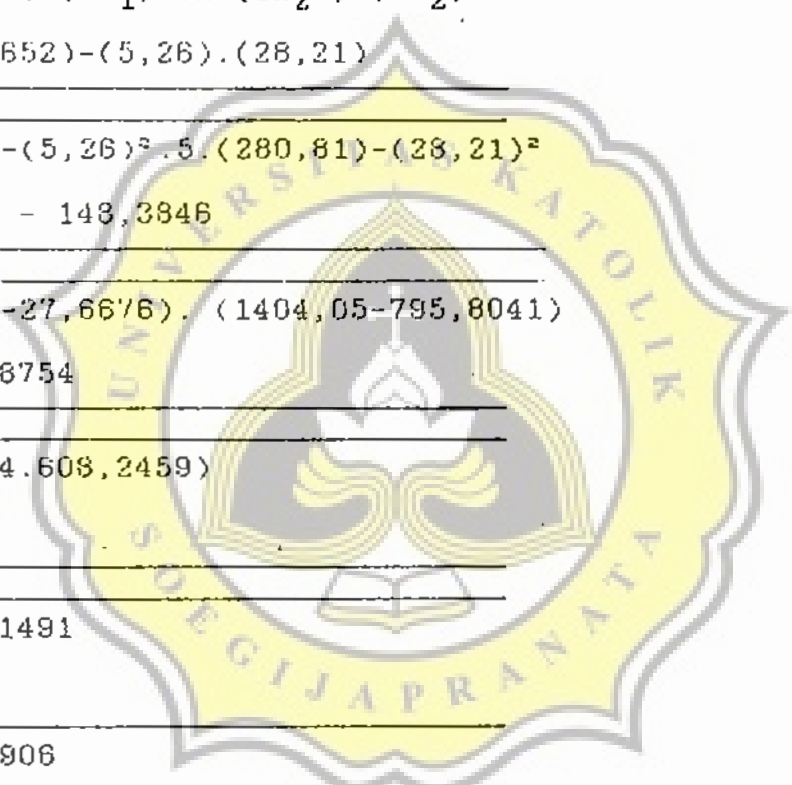
$$= \frac{9,8754}{\sqrt{(1,0124 \cdot 608,2459)}}$$

$$= \frac{9,8754}{\sqrt{615,7881491}}$$

$$= \frac{9,8754}{24,81507906}$$

$$= 0,397959642$$

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LAMPIRAN : 8

Dengan demikian korelasi parsial $r_{y_1.2}$ dan $r_{y_2.1}$ dapat dicari dengan perhitungan berikut :

$$\begin{aligned} r_{y_1.2} &= \frac{r_{y_1} - (r_{y_2}) \cdot (r_{1.2})}{\sqrt{1 - (r_{y_2})^2 \cdot 1 - (r_{1.2})^2}} \\ &= \frac{0,8155 - 0,8258 \cdot 0,3979}{\sqrt{1 - (0,8258)^2 \cdot 1 - (0,3979)^2}} \\ &= \frac{0,8155 - 0,32858582}{\sqrt{1 - (0,68194564 \cdot 1 - 0,15832441)}} \\ &= \frac{0,48691418}{\sqrt{0,31805436 \cdot 0,84167559}} \\ &= \frac{0,48691418}{\sqrt{0,267698591}} \\ &= \frac{0,48691418}{0,517395971} \\ &= 0,941086145 \\ &= \text{=====} \\ r_{y_2.1} &= \frac{r_{y_2} - r_{y_1} \cdot r_{1.2}}{\sqrt{1 - (r_{y_1})^2 \cdot 1 - (r_{1.2})^2}} \\ &= \frac{0,8258 - (0,8155 \cdot 0,3979)}{\sqrt{1 - (0,8155)^2 \cdot 1 - (0,3979)^2}} \\ &= \frac{0,8258 - 0,32446745}{\sqrt{1 - 0,66504025 \cdot 1 - 0,15832441}} \end{aligned}$$

$$\begin{aligned}
 &= \frac{0,50131255}{\sqrt{(1-0,66504025) \cdot (1-0,15832441)}} \\
 &= \frac{0}{\sqrt{(0,33495975) \cdot (0,84167559)}} \\
 &= \frac{0,50131255}{\sqrt{0,281927445}} \\
 &= \frac{0,50131255}{0,530968403} \\
 &= \frac{0,944147612}{\text{=====}}
 \end{aligned}$$



LAMPIRAN : 9

TABEL F 5%

N D	1.	2.	3.	4.	5.
1.	161	207	216	225	230
2.	18,5	19,0	19,2	19,2	19,3
3.	10,1	9,55	9,28	9,12	9,01
4.	7,71	6,94	6,59	6,39	6,26
5.	6,61	5,79	5,41	5,19	5,05
6.	5,99	5,14	4,76	4,53	4,39
7.	5,59	4,74	4,35	4,12	3,97
8.	5,32	4,46	4,07	3,84	3,69
9.	5,12	4,26	3,86	3,63	3,48
10.	4,96	4,10	3,71	3,48	3,33

Sumber : Supranto, J., 1983:311

TABEL NILAI-NILAI - t

Batas Signifikansi Nilai - t pada pelbagai Taraf Signifikansi

d.b.	Taraf Signifikansi							
	50 %	40 %	30 %	10 %	5 %	2 %	1 %	0,1 %
1.	1,000	1,376	3,078	6,314	12,706	31,821	63,657	636,619
2.	0,816	1,061	1,886	2,920	4,304	6,965	9,925	31,598
3.	0,765	0,978	1,638	2,353	3,182	4,541	5,841	12,941
4.	0,741	0,941	1,533	2,132	2,776	3,747	4,604	8,610
5.	0,727	0,920	1,476	2,015	2,571	3,365	4,032	6,859

Sumber : Sutrisno Hadi, 1991:517